

Basic Catalog information

Original Catalog	Coverage (sq. deg)	Number of Objects	Description	Telescope	Instrument	Passbands	Reference information	Notes
GSC 1.0	All-Sky		All-Sky Photographic surveys	Palomar schmidt, AAO schmidt	photographic plates	Vpg, Jpg		
GSC 1.1	All-Sky	25,253,151	All-Sky Photographic surveys + Tycho	Palomar schmidt, AAO schmidt	photographic plates	Vpg, Jpg	The Guide Star Catalog I - Astronomical Foundations and Image Processing The Guide Star Catalog II - Photometric and Astrometric Models and Solutions The Guide Star Catalog III - Production, Database Organization and Population Statistics	
GSC 1.2	All-Sky	25,253,151	All-Sky Photographic surveys	Palomar schmidt, AAO schmidt	photographic plates	Vpg, Jpg		
GSC 2.3.4	All-Sky	1,020,503,745	All-Sky Photographic surveys + 2MASS	Palomar schmidt, AAO schmidt	photographic plates	Opg, Jpg, Vpg, Fpg, Epg, Npg B,V, J, H, Ks	The Second-Generation Guide Star Catalog: Description and Properties	Includes bright stars from Sky2000v4 and Tycho2 and some new 2MASS stars
GSC 2.4.0	All-Sky	945,443,930	GSC 2.3.4 with 2MASS only objects removed and GAIAdr1 astrometry transferred			Opg, Jpg, Vpg, Fpg, Epg, Npg B, V		released for HST GSSS Oct 2017
GSC 2.4.1	All-Sky	2,516,066,427	GSC 2.3 + GAIAdr1+ 2MASS + SDSSdr13 + VISTAdr2 + VSTdr3			Opg, Jpg, Vpg, Fpg, Epg, Npg, G, B, V, u, g, r, i, z, Z, Y, J, H, Ks		released for JWST PPS Jul 2018
GSC 2.4.2	All-Sky	3,485,671,481	GSC 2.4.1.1 + PS1best + ALLWISE + SMSSdr1 + GALEX + ultraVISTA and available GAIA dr2 astrometry transferred			Opg, Jpg, Vpg, Fpg, Epg, Npg, G, B, V, u, g, r, i, z, Z, Y, J, H, Ks, FUV, NUV, W1, W2, W3, W4		released for HST, JWST and WFIRST testing May 2020
GAIA dr1	All-Sky	1,142,679,769				G	https://www.cosmos.esa.int/web/gaia/data-release-1	added in GSC 2.4.1
GAIA dr2	All-Sky	1,692,919,135				G, Rg, Bg	https://www.cosmos.esa.int/web/gaia/data-release-2	added in GSC 2.4.2
GAIA edr3	All-Sky						https://www.cosmos.esa.int/web/gaia/early-data-release-3	release planned 2020-12-03
UCAC5	All-Sky	107,758,513						all are GAIA dr1 sources; provides additional proper motion data
APASS dr9	All-Sky	61,176,401	AAVSO Photometric All Sky Survey			B, V, g, r, i	https://www.aavso.org/apass	added in GSC 2.4.1
2MASS	All-Sky	496,911,362				J, H, Ks		Includes the PSC, XSC, and 6x fields added in GSC 2.4.1
SDSS dr13	14,555	469,050,976	Sloan Digital Sky Survey			u, g, r, i, z	http://www.sdss.org/dr13/	added in GSC 2.4.1
VISTA - VHS dr4	20,000	1,155,634,198	VISTA Hemisphere Survey	VISTA	VIRCAM	Z,Y,J,H,Ks	http://www.vista-vhs.org/ http://adsabs.harvard.edu/abs/2013Msngr.154...35M	added in GSC 2.4.1 superseded by dr5 (not yet downloaded)
VISTA - VIKING dr2	1500 (planned)	46,270,162	VISTA Kilo-degree Infrared Galaxy Survey	VISTA	VIRCAM	Z,Y,J,H,Ks	http://www.eso.org/rm/api/v1/public/releaseDescriptions/41	added in GSC 2.4.1
VISTA - UltraVISTA dr3	0.75	433,547	Deep/Ultra-Deep Near-IR Survey of the COSMOS Field	VISTA	VIRCAM	Y,J,H,Ks,NB118		

VST - KIDS dr3	1500	48,736,590	Kilo-Degree Survey	VST	OMEGACAM	u, g, r, i		added in GSC 2.4.1
VST - ATLAS dr3	4500	105,132,174		VST	OMEGACAM	u, g, r, i, z	http://astro.dur.ac.uk/Cosmology/vstatlas/ http://www.eso.org/rm/api/v1/public/releaseDescriptions/90	added in GSC 2.4.1
PanSTARRS dr1	30,000	1,919,106,885	PanSTARRS	PS1	PS1	g, r, i, z, y, w	https://confluence.stsci.edu/display/PANSTARRS/PanSTARRS1+data+archive+home+page	'best' catalog with ndetections>=2 added in GSC 2.4.2
ALLWISE	All-Sky	747,634,026				w1, w2, w3, w4		added in GSC 2.4.2
GALEX	All-Sky	82,992,086				fuv, nuv		AIS added in GSC 2.4.2
UHS dr1	12,700 (dr1) 17,900 (final)		UKIRT Hemisphere Survey	UKIRT	WFCAM	J, K	https://arxiv.org/abs/1707.09975	DR1 does not include existing UKIDSS (which will be merged) or K-band data.
VISTA - VIKING dr3	1350	73,747,647	VISTA Kilo-degree Infrared Galaxy Survey	VISTA	VIRCAM	Z,Y,J,H,Ks	http://www.eso.org/rm/api/v1/public/releaseDescriptions/107 http://www.eso.org/qi/catalog/show/210	superseded by dr4 (not downloaded yet)
SMSS dr1	17,200	285,159,194	SkyMapper Southern Sky Survey	Skymapper		u,v,g,r,i,z	http://skymapper.anu.edu.au/	added in GSC 2.4.2
ATLAS refcat	All-Sky	992,637,834	Asteroid Terrestrial-Impact Last Alert System (ATLAS) (GAIA dr2 + PanSTARRS dr1 + SkyMapper dr1 + APASS + Tycho2 + Yale Bright Star Catalog)	compilation	compilation		https://arxiv.org/abs/1809.09157	